Message

From: Fernandez, Cristina [Fernandez.Cristina@epa.gov]
Sent: 11/4/2019 1:11:11 PM
To: Chow, Alice [chow.alice@epa.gov]
Subject: RE: WV Modeling

Thanks!

Cristina Fernandez, Director
Air & Radiation Division (3AD00)
U. S. Environmental Protection Agency, Region 3
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From: Chow, Alice <chow.alice@epa.gov>
Sent: Monday, November 04, 2019 7:55 AM
To: Fernandez, Cristina <Fernandez.Cristina@epa.gov>; Nitsch, Chad <Nitsch.Chad@epa.gov>; Kim, Lena <Kim.Lena@epa.gov>
Cc: Fry, Jessica <fry.jessica@epa.gov>
Subject: RE: WV Modeling

Cristina: You can use the writeup below.

ARD's Air Quality Analysis Branch (AQAB) has completed new risk exposure modeling of ethylene oxide emissions from 3 high risk sources (greater than 100 in a million risk) in West Virginia. The 2014 National Air Toxics Assessment used nearby airport meteorological data in it is initial assessment. An updated 2017 revision used updated point source emissions and airport meteorological data. West Virginia Division of Air Quality (WVDAQ) thought that using airport meteorological data was biased high due to the higher elevation (more turbulence) of the airport in relation to the high risk facilities. WVDAQ requested R3 to revise the 2017 airport data with local meteorological data from an existing NCore Multipollutant Monitoring Station along the river valley. The table below show the revised modeled risk estimates using 2017 NCore met data more than tripled from the 2017 airport met data.

Facility	2014 Airport Met Data	2017 Airport Met Data	2017 NCore Met Data	2014 NEI v2	2017 NEI
	EtO Cancer Risk (in a million)	EtO Cancer Risk (in a million)	EtO Cancer Risk (in a million)	EtO Emissions (tpy)	EtO Emissions (tpy)
Union Carbide Institute	1290	880	2630	2.91	2.38
Union Carbide South Charleston	997	881	2481	0.83	0.72
Covestro	103	92	367	0.0925	0.0825

AQAB will be sending the results and the modeling files to WVDAQ this week. We plan to have a conference call to discuss implications and possible next steps.

Alice H. Chow
Chief, Air Quality Analysis Branch (3AD40)
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From: Fernandez, Cristina <Fernandez.Cristina@epa.gov>
Sent: Friday, November 01, 2019 2:50 PM
To: Chow, Alice <chow.alice@epa.gov>; Nitsch, Chad <Nitsch.Chad@epa.gov>; Kim, Lena <Kim.Lena@epa.gov>
Cc: Fry, Jessica <fry.jessica@epa.gov>
Subject: RE: WV Modeling

Hi Alice,

Since Anne will be here on Monday, I will not be able to go to the RA staff meeting. Could you prepare a notification that I can send upstairs for Cos to read?

Thank, Cristina

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From: Chow, Alice <chow.alice@epa.gov>
Sent: Thursday, October 31, 2019 1:59 PM
To: Fernandez, Cristina <Fernandez.Cristina@epa.gov>; Nitsch, Chad <Nitsch.Chad@epa.gov>; Kim, Lena <Kim.Lena@epa.gov>
Cc: Fry, Jessica <fry.jessica@epa.gov>
Subject: FW: WV Modeling
Importance: High

Hi, I asked Jessie to provide a short summary of the revised WV EtO risk modeling results. We are planning to send it to West Virginia next week. Before we do so, Cristina wanted to alert Cos. I will wait to hear back before sending anything to WV. I am out tomorrow but Jessie will be in the office Friday if there are questions.

Alice

Alice H. Chow
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From: Fry, Jessica <fry.jessica@epa.gov>
Sent: Wednesday, October 30, 2019 2:48 PM
To: Chow, Alice <chow.alice@epa.gov>
Subject: WV Modeling

Hi Alice,

Here is my little write about our modeling and I highlighted in red the possible steps forward in case you want to change or add to these. Here's a table with the emissions as well. Let me know if you need anything else. I'll be out tomorrow, but can fix or change things on Friday when I'm in.

Facility	2017 Airport Met Data	2017 NCORE Met Data	2017 NEI
	EtO Cancer Risk (in a million)	EtO Cancer Risk (in a million)	EtO Emissions (tpy)
Union Carbide Institute	880	2630	2.38
Union Carbide South Charleston	881	2481	0.72
Covestro	92	367	0.0825

EPA Region 3 modeled the 2017 National Emissions Inventory (NEI) point source emissions for the three West Virginia Facilities that had a high cancer risk based on the 2014 National Ambient Air Toxics Assessment (NATA). This modeling was conducted in order to assess the maximum individual risks (MIR) for cancer from Ethylene Oxide (EtO) for each of these three facilities:

- Union Carbide Corporation – Institute
- Union Carbide Corporation - South Charleston Facility
- Covestro LLC - South Charleston

Region 3 first modeled these facilities using EPA's Human Exposure Model (HEM) with 2017 state submitted emissions. We presented these results to West Virginia and they requested that we use meteorological data from one of their NCORE monitoring stations instead of the local airport meteorological data, along with updated stack parameters provided by the facility to EPA OAQPS. After remodeling with the local NCORE meteorological data, the facility MIR for cancer for EtO showed a large increase. This increase is likely the result of using meteorological data from a tower that is located along the river valley where the facilities are located.

Possible steps forward with West Virginia regarding the modeling:

- **Ex. 5 Deliberative Process (DP)**

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